

AMENDMENTSIn the Claims:

This listing of claim replaces all prior versions, and listings, of claims in the application:

1-43 (Canceled)

44. (Currently Amended) An estimation system for harness processing comprising a storage unit which stores information, an input unit which receives input of instructions and information, an output unit which outputs information, and a control circuit which controls operation of the foregoing units, the system making an estimate of a to-be-estimated harness for which estimation is to be made, wherein:

the storage unit is configured to store a database registering a quantity of child components necessary for manufacturing each harness and a unit child component price in association with identification information of the each harness, a material cost estimation function for calculating a material cost of a harness by inputting thereto the quantity and the unit child component price, and a processing cost estimation function for calculating a processing cost of a harness for each processing by inputting thereto calculation factors; and

the control circuit performs is configured to perform:

an identification information acquiring step function of acquiring, via the input unit, identification information of a to-be-estimated harness for which estimation is to be made;

a step function of reading out, from the database of the storage unit, a quantity of child components and a unit child component price corresponding to the acquired identification information of the harness;

a step function of creating a component screen displaying the read-out quantity of child components and the read-out unit child component price and outputting the component screen via the output unit;

a step function of, subsequent to outputting of the component screen, changing the read-out quantity of child components and the read-out unit child component price when a change to the read-out quantity of child components and the readout unit child component price is acquired via the input unit;

a material cost estimation function reading out step function of reading out a material cost estimation function from the storage unit;

a step function of calculating a material cost of a harness corresponding to the acquired identification information based on the read-out material cost estimation function, the read-out quantity of child components, and the read-out unit child component price when the change has not been made and calculating a material cost of a harness corresponding to the acquired identification information based on the read-out material cost estimation function as well as on a quantity of child components and a unit child component price after the change when the change has been made;

a step function of registering, in the database, a quantity of child components and a unit child component price, both having been used for calculating the material cost, in association with new identification information;

a step function of creating a condition input image for inputting a predetermined functioning condition of the to-be-estimated harness for which estimation is to be made, in response to an instruction from the input unit, and outputting the condition input image from the output unit;

a step function of, subsequent to outputting the condition input image, selecting an instrument to be used in processing of the harness for which estimation is to be made based on a condition input from the input unit;

a step function of identifying the processing that needs to be performed when the to-be-estimated harness for which estimation is to be made is processed by the selected instrument;

a step-function of forming, for the identified processing, a factor input image for inputting the calculation factors needed for calculating a processing cost of the harness and outputting the factor input image from the output unit;

a processing cost estimation function reading out step-function of reading out, from the storage unit, a processing cost estimation function corresponding to the identified processing; and

a step-function of calculating, subsequent to outputting of the factor input image, a processing cost of the harness for which estimation is to be made based on the calculation factors input from the input unit and the read-out processing cost estimation function,

wherein the input unit and the output unit comprise a communication unit which communicates with an external terminal, and the communication unit is configured to input instructions and information received from the external terminal for input to the control circuit, and transmit a harness estimation result including the material cost and the processing cost of the harness calculated by the control circuit.

45. (Previously Presented) The estimation system for harness processing according to claim 44, wherein:

a portion of the factor input image where the calculation factors of the identified processing are to be input is differentiated from other portions thereof by color.

46. (Previously Presented) The estimation system for harness processing according to claim 44, wherein:

when the factor input image comprises a plurality of pages, the control circuit displays, on each of the plurality of pages of the factor input image, a guidance indicating which one of the pages has a portion where the calculation factors of the identified processing are to be input.

47. (Previously Presented) The estimation system for harness processing according to claim 44, wherein:

the processing cost estimation function includes functions for calculating an instrument operation cost, an instrument labor cost, and a planning cost as a processing cost; and

the control circuit performs a step of adding up an instrument operation cost, an instrument labor cost, and a planning cost.

48. (Previously Presented) The estimation system for harness processing according to claim 44, further comprising:

a communication unit which receives the estimation function and stores the received estimation function in the storage unit.

49. (Canceled)

50. (Currently Amended) An estimation method for harness processing for estimating a to-be-estimated harness in~~In~~ an estimation system for harness processing comprising a storage unit which stores information, an input unit which ~~receives input~~inputs of instructions and information by communicating with an external terminal, an output unit which outputs information by communicating with the external terminal, and a control circuit which controls operation of the foregoing units and making an estimate of ~~a, the to-be-estimated harness for which estimation is to be made, an~~the estimation method for harness processing comprising:

a step of storing, by the storage unit a database registering a quantity of child components necessary for manufacturing each harness and a unit child component price in association with identification information of the each harness, a material cost estimation function for calculating a material cost of a harness by inputting thereto the quantity and the unit child component price, and a processing cost estimation function for calculating a processing cost of a harness for each processing by inputting thereto calculation factors; and

steps performed by the control circuit, the steps being:

an identification information acquiring step of acquiring, via the input unit, identification information of ~~the to-be-estimated harness for which estimation is to be made~~;

a step of reading out, from the database of the storage unit, a quantity of child components and a unit child component price corresponding to the acquired identification information of the harness;

a step of creating a component screen displaying the read-out quantity of child components and the read-out unit child component price and outputting the component screen via the output unit;

a step of changing, subsequent to outputting of the component screen, the read-out quantity of child components and the read-out unit child component price when a change to the read-out quantity of child components and the readout unit child component price is acquired via the input unit;

a material cost estimation function reading out step of reading out a material cost estimation function from the storage unit;

a material cost calculating step of calculating a material cost of a harness corresponding to the acquired identification information based on the read-out material cost estimation function, the read-out quantity of child components, and the read-out unit child component price when the change has not been made and calculating a material cost of a harness corresponding to the acquired identification information based on the read-out material cost estimation function as well as on a quantity of child components and a unit child component price after the change when the change has been made;

a step of registering, in the database, a quantity of child components and a unit child component price, both having been used for calculating the material cost, in association with new identification information;

a step of creating a condition input image for inputting a predetermined processing condition of the to-be-estimated harness for which estimation is to be made, in response to an instruction from the input unit, and outputting the condition input image from the output unit;

a step of, subsequent to outputting the condition input image, selecting an instrument to be used in processing of the to-be-estimated harness for which estimation is to be made based on a condition input from the input unit;

a step of identifying the processing that needs to be performed when the to-be-estimated harness for which estimation is to be made is processed by the selected instrument;

a step of forming, for the identified processing, a factor input image for inputting the calculation factors needed for calculating a processing cost of the

harness and outputting the factor input image from the output unit;

a processing cost estimation function reading out step of reading out, from the storage unit, a processing cost estimation function corresponding to the identified processing; and

a processing cost calculating step of calculating, subsequent to outputting of the factor input image, a processing cost of the to-be-estimated harness for which estimation is to be made based on the calculation factors input from the input unit and the read-out processing cost estimation function; and

a step of outputting a harness estimation result including the material cost calculated in the material cost calculating step and the processing cost calculated in the processing cost calculating step.

51. (Previously Presented) The estimation method for harness processing according to claim 50, wherein:

a portion of the factor input image where the calculation factors of the identified processing are to be input is differentiated from other portions thereof by color.

52. (Previously Presented) The estimation method for harness processing according to claim 50, wherein:

when the factor input image comprises a plurality of pages, a guidance indicating which one of the pages has a portion where the calculation factors of the identified processing are to be input is displayed on each of the plurality of pages by the control circuit.

53. (Previously Presented) The estimation method for harness processing according to claim 50, wherein:

the processing cost estimation function includes functions for calculating an instrument operation cost, an instrument labor cost, and a planning cost as a processing cost; and

a step of adding up an instrument operation cost, an instrument labor cost, and a planning cost is performed by the control circuit.

54. (Previously Presented) The estimation method for harness processing according to claim 50, wherein:

the system comprises a communication unit, whereby the estimation function is received and stored in the storage unit.

55. (Canceled)

56. (Currently Amended) In an estimation system for harness processing comprising a storage unit which stores information, an input unit which ~~receives input~~inputs of instructions and information by communicating with an external terminal, an output unit which outputs information by communicating with the external terminal, and a control circuit which controls operation of the foregoing units, wherein the storage unit stores a database registering a quantity of child components necessary for manufacturing each harness and a unit child component price in association with identification information of the each harness, a material cost estimation function for calculating a material cost of a harness by inputting thereto the quantity and the unit child component price, and a processing cost estimation function for calculating a processing cost of a harness for each processing by inputting thereto calculation factors, a program causing the control circuit to perform:

- an identification information acquiring step of acquiring, via the input unit, identification information of a to-be-estimated harness for which estimation is to be made;
- a step of reading out, from the database of the storage unit, a quantity of child components and a unit child component price corresponding to the acquired identification information of the harness;
- a step of creating a component screen displaying the read-out quantity of child components and the read-out unit child component price and outputting the component screen via the output unit;
- a step of changing, subsequent to outputting of the component screen, the read-out quantity of child components and the read-out unit child component price when a change to the read-out quantity of child components and the readout unit child component price is acquired via the input unit;
- a material cost estimation function reading out step of reading out a material cost estimation function from the storage unit;
- a material cost calculating step of calculating a material cost of a harness corresponding to the acquired identification information based on the read-out material cost estimation function, the read-out quantity of child components, and the read-out unit child component price when the change has not been made and calculating a material cost of a harness corresponding to the acquired identification information based on the read-out material cost estimation function as well as on a quantity of child components and a unit child component price after the change when the change has been made;
- a step of registering, in the database, a quantity of child components and a unit child component price, both having been used for calculating the material cost, in association with new identification information;

a step of creating a condition input image for inputting a predetermined processing condition of the to-be-estimated harness-for-which estimation is to be made, in response to an instruction from the input unit, and outputting the condition input image from the output unit;

a step of, subsequent to outputting the condition input image, selecting an instrument to be used in processing of the to-be-estimated harness-for-which estimation is to be made based on a condition input from the input unit;

a step of identifying the processing that needs to be performed when the to-be-estimated harness-for-which estimation is to be made is processed by the selected instrument;

a step of forming, for the identified processing, a factor input image for inputting the calculation factors needed for calculating a processing cost of the harness and outputting the factor input image from the output unit;

a processing cost estimation function reading out step of reading out, from the storage unit, a processing cost estimation function corresponding to the identified processing; and

a processing cost calculating step of calculating, subsequent to outputting of the factor input image, a processing cost of the to-be-estimated harness-for-which estimation is to be made based on the calculation factors input from the input unit and the read-out processing cost estimation function.

57. (Previously Presented) The program according to claim 56, wherein:

a portion of the factor input image where the calculation factors of the identified processing are to be input is differentiated from other portions thereof by color.

58. (Previously Presented) The program according to claim 56, wherein:

when the factor input image comprises a plurality of pages, the control circuit displays, on each of the plurality of pages of the factor input image, a guidance indicating which one of the pages has a portion where the calculation factors of the identified processing are to be input.

59. (Previously Presented) The program according to claim 56, wherein:

the processing cost estimation function includes functions for calculating an instrument operation cost, an instrument labor cost, and a planning cost as a processing cost; and

the control circuit performs a step of adding up an instrument operation cost, an instrument labor cost, and a planning cost.